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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/730,866	12/09/2003	Daniel J. Cosgrove	P04665US02	3290
27407	7590	08/01/2006	EXAMINER	
MCKEE, VOORHEES & SEASE, P.L.C. ATTN: PENNSYLVANIA STATE UNIVERSITY 801 GRAND AVENUE, SUITE 3200 DES MOINES, IA 50309-2721			CHOWDHURY, IQBAL HOSSAIN	
			ART UNIT	PAPER NUMBER
			1652	

DATE MAILED: 08/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/730,866

Applicant(s)

COSGROVE, DANIEL J.

Examiner

Iqbal Chowdhury, Ph.D.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) 29-34 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 and 35-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>12/03</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This application is a continuation of 09/071,252 of 5/1/1998 of US Patent 6,682,738, which claim benefit of provisional application 60/045,445 of 5/2/1997.

The preliminary amendment filed on 5/8/2006 is acknowledged. Claims 1-40 are pending.

Applicant's election with traverse of Group I, Claims 1-28, 30 and 35-40, drawn to isolated polypeptide beta-expansin and a composition comprising the polypeptide in the response, and invention (A) SEQ ID NO: 10 filed on 5/8/2006 is acknowledged.

The traversal is on the ground(s) that there would be no burden of search for the examination of all the protein sequences of subgroup (A) to (F) (six protein sequences) simultaneously because they are related as a single class of proteins with similar properties and as such no separate search is required. This is not found persuasive because each of the proteins (SEQ ID NO: 10, SEQ ID NO: 11, SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 14, and SEQ ID NO: 15) is structurally and functionally different, independent and distinct. Although, the each of the proteins may be functionally similar but not same and they also represent an independent product. The practice of USPTO is "one patent for one invention". As restriction is clearly permissible even among related inventions as defined in MPEP 808 and 35 U.S.C. 121 allows restriction of inventions, which are independent or distinct. Thus these inventions (protein sequences) are distinct for the reasons given previously.

"For purposes of the initial requirement, a serious burden on the examiner may be prima facie shown if the examiner shows by appropriate explanation either separate classification,

separate status in the art, or a different field of search as defined in MPEP 808.02." (see MPEP 803).

The requirement is still deemed proper and is therefore made FINAL.

Claims 29, 30, 31-32, 33 and 34 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in communication filed on 5/8/2006.

Claims 1-22, 23, 24-28 and 35-40 are under consideration and are being examined herein.

Priority

Acknowledgement is made of applicants claim for priority of Application No. 09/071,252 of 5/1/1998, US Patent 6,682,738, which claim benefit of provisional application 60/045,445 of 5/2/1997.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on 12/9/2003 was filed with the Continuation Application. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Drawings

The drawing of this application submitted on 12/9/2003 is being considered by the examiner.

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Claim Objections

Claims 10, 19 and 40 are objected to as encompassing non-elected subject matter. Appropriate correction is required.

Claim 3 is objected to with the recitation “a Gly Gly Ala Cys Gly” should be “a Gly Gly Ala Cys Gly motif”. Appropriate correction is required.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 24 and 25 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

In the absence of the hand of man, naturally occurring nucleic acids and /or proteins are considered non-statutory subject matter. *Diamond and Chakrabarty*, 206 USPQ 193 (1980). This rejection may be overcome by amending the claims to contain wording such as “An isolated and purified protein”. For examination purpose the claim is read as such.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claims 6-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 6 recites “the protein, or fragment thereof”, which is confusing. The term

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“the protein, or fragment thereof” lacks antecedent basis in claim 5 from which claim 6 depends.

Claims 7-9 are also rejected as being dependent upon claim 6. Correction is required.

Claim 28 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 28 recites “the protein, or fragment thereof”, which is confusing. The term “the protein, or fragment thereof” lacks antecedent basis in claim 26 from which claim 28 depends. Correction is required.

Claims 13 and 22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 13 and 22 recite “selected from the group comprising”, which is indefinite as comprising allows group to have additional undefined members. Clarification is required.

Claim 13 and 22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite and vague for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 13 and 22 are indefinite and vague in the recitation of “vegetative homolog of a grass pollen allergen” as it is unclear what characteristics must a “homolog” have?

Claims 1-4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite and vague for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 1-4 are indefinite and vague in the recitation of “inducing expansion or stress relation on grass cell walls more effectively on monocot cell walls than on dicotyledons cell walls” which is unclear as to what activities are being recited. Is this reciting

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assays, wherein the effects on grass cell walls? Or assays, which compare effects on monocot and dicot cell walls? Clarification is required.

Claim 13, 22 and 28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite and vague for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 13, 22 and 28 are indefinite and vague in the recitation of "said beta expansin protein is selected from the group comprising: -----grass pollen allergen or an isolated polynucleotide encoding said beta-expansin". A protein cannot be a polynucleotide.

Claims 10 and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite and vague for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 10 and 19 are indefinite and vague in the recitation of "The protein ----- SEQ ID NO: 10". SEQ ID NO: 10 is not a grass pollen allergen at all as required by claims 5 and 15. SEQ ID NO: 10 is from rice. Was claim 5 and 15 intended to recite "a vegetative homolog of a grass pollen allergen?"

Claims 10 and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite and vague for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 10 and 19 are indefinite with the recitation "further comprising" as the use of the term further' implies that SEQ ID NO: 10 is in addition to the features already recited not that they are comprises within SEQ ID NO: 10. It is suggested to delete "further".

Claims 10 and 19 are indefinite and vague in the recitation of "The protein ----- SEQ ID NO: 10". SEQ ID NO: 10 is not a grass pollen allergen at all as required by claims 5 and 15.

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SEQ ID NO: 10 is from rice. Was claim 5 and 15 intended to recite “a vegetative homolog of a grass pollen allergen?”

Claim 14 and 23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite and vague for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 14 is indefinite and vague in the recitation of “Isolated and purified from a ---- dicotyledonous species”, which is inconsistent with claims 5 and 15, which recites that the protein is a grass (monocot) pollen allergen.

Claims 5 and 15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite and vague for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 5 and 15 are indefinite and vague in the recitation of “25% or less sequence similarity with an alpha-expansin”, as it is unclear about the specificity of alpha-expansin. It is not clear which alpha-expansin meant by the applicant?

Claim 24, 25 and 39 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Regarding claims 24, 25 and 39, the phrase “such as” renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claims 26 and 28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite and vague for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 26 is indefinite in the recitation of “present in grass pollen”. Claim 28 (dependent on claim 26) recites “ vegetative homolog of a group I grass pollen allergen”, which is impossible.

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Claim 37 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 36 is not further limiting of claim 35.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-9, 11-18, 20-22, 24-28 and 35-39 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 1-5, 7-9, 15, 17-18, 24-28 and 35-39 are directed to a genus of a beta-expansins comprising some specific motifs, 25% or less sequence similarity with an alpha-expansin, a conserved motif of His-Phe-Asp-Leu-Ser-Gly or Gly Gly Ala Cys Gly in amino acid sequence of seven beta-expansin proteins, which is present in plant cell walls having function of expansion or stress relation on grass cell walls as determined by cell wall extension and/or stress relation assays. Claims 6 and 16 recite said protein is a member of the beta-expansin family and claim 11, 12, 20 and 21 recite said protein is isolated and purified or recombinantly produced from a monocotyledonous species. Claims 13 and 22 recite said beta-expansin protein is selected from the group comprising: a vegetative homolog of a group I grass pollen allergen or an isolated

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polynucleotide encoding said beta-expansin and claims 14 recite said beta-expansin protein is isolated and purified or recombinantly produced from a dicotyledonous species. Claim 30 recites said beta-expansin being of a dicotyledonous origin, wherein said beta-expansin is not of soybean origin. As discussed in the written description guidelines the written description requirement for a claimed genus may be satisfied through sufficient description of a representative number of species by actual reduction to practice, reduction to drawings, or by disclosure of relevant, identifying characteristics, i.e., structure or other physical and/or chemical properties, by functional characteristics coupled with a known or disclosed correlation between function and structure, or by a combination of such identifying characteristics, sufficient to show the applicant was in possession of the claimed genus. A representative number of species means that the species, which are adequately described are representative of the entire genus. Thus, when there is substantial variation within the genus, one must describe a sufficient variety of species to reflect the variation within the genus. The specification teaches the structure of only few representative species of such proteins.

While claims 1-5 recite some structural characteristics i.e. amino acid motifs or 25% or less sequence similarity with alpha-expansin, none of these characteristics alone is sufficient to change the fact that the claims include proteins which are highly variable in structure and neither genus recites enough characteristics that a skilled artisan would reasonably expect that any protein having these characteristics would necessarily be highly structurally similar to the disclosed species. Moreover, the specification fails to describe any other representative species by additional identifying characteristics or properties other than the functionality of encoding a beta-expansin protein. Given this lack of description of representative species encompassed by

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the genus of proteins used in the claim, the specification fails to sufficiently describe the claimed invention in such full, clear, concise, and exact terms that a skilled artisan would recognize that applicants were in possession of the claimed invention.

Claims 1-9, 11-18, 20-22, 24-25, 26-28 and 35-39 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a beta-expansin of SEQ ID NO: 10 from *Oryza sativa* (rice) comprising some specific motifs, 25% or less sequence similarity with an alpha-expansin, a conserved motif of His-Phe-Asp-Leu-Ser-Gly or Gly Gly Ala Cys Gly in amino acid sequence of seven beta-expansin proteins, does not reasonably provide enablement for any beta-expansin or any fragment thereof. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims.

Claims 1-5, 15, 24, 26, 35 and 39 are so broad as to encompass any beta-expansin or any fragment thereof of SEQ ID NO: 10 comprising some specific motifs, 25% or less sequence similarity with an alpha-expansin, a conserved motif of His-Phe-Asp-Leu-Ser-Gly or Gly Gly Ala Cys Gly in amino acid sequence of seven beta-expansin proteins, which is present in plant cell walls having function of expansion or stress relation on grass cell walls as determined by cell wall extension and/or stress relation assays. Claims 6 and 16 recite said protein is a member of the beta-expansin family and claim 11, 12, 20 and 21 recite said protein is isolated and purified or recombinantly produced from a monocotyledonous species. Claims 13 and 22 recite said beta-expansin protein is selected from the group comprising: a vegetative homolog of a group I grass pollen allergen or an isolated polynucleotide encoding said beta-expansin and claims 14 recite

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said beta-expansin protein is isolated and purified or recombinantly produced from a dicotyledonous species. The scope of the claims is not commensurate with the enablement provided by the disclosure with regard to the extremely large number of beta-expansins broadly encompassed by the claims. Since the amino acid sequence of a protein determines its structural and functional properties, predictability of which changes can be tolerated in a protein's amino acid sequence and obtain the desired activity requires a knowledge of and guidance with regard to which amino acids in the protein's sequence, if any, are tolerant of modification and which are conserved (i.e. expectedly intolerant to modification), and detailed knowledge of the ways in which the proteins' structure relates to its function. However, in this case the disclosure is limited to the nucleotide and encoded amino acid sequence of only few beta-expansin protein.

While recombinant and mutagenesis techniques are known, it is not routine in the art to screen for multiple substitutions or multiple modifications, as encompassed by the instant claims, and the positions within a protein's sequence where amino acid modifications can be made with a reasonable expectation of success in obtaining the desired activity/utility are limited in any protein and the result of such modifications is unpredictable. In addition, one skilled in the art would expect any tolerance to modification for a given protein to diminish with each further and additional modification, e.g. multiple point mutations or substitutions.

The specification does not support the broad scope of the claims which encompass any beta-expansin or any fragment thereof because the specification does not establish: (A) regions of the protein structure which may be modified without effecting beta-expansin activity; (B) the general tolerance of beta-expansin to modification and extent of such tolerance; (C) a rational and predictable scheme for modifying any beta-expansin residues with an expectation of

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obtaining the desired biological function; and (D) the specification provides insufficient guidance as to which of the essentially infinite possible choices is likely to be successful.

Thus, applicants have not provided sufficient guidance to enable one of ordinary skill in the art to make and use the claimed invention in a manner reasonably correlated with the scope of the claims broadly including any beta-expansin or any fragment thereof. The scope of the claims must bear a reasonable correlation with the scope of enablement (In re Fisher, 166 USPQ 19 24 (CCPA 1970)). Without sufficient guidance, determination of any beta-expansin or any fragment thereof having the desired biological characteristics is unpredictable and the experimentation left to those skilled in the art is unnecessarily, and improperly, extensive and undue. See In re Wands 858 F.2d 731, 8 USPQ2nd 1400 (Fed. Cir, 1988).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-28, and 35-40 are rejected under 35 U.S.C. 102(b) as being anticipated by UniProt Accession No. O24230_Orysa, created 1/1/1998). UniProt teach a sequence of a beta-expansin protein isolated from rice, which is 100% identical to SEQ ID NO: 10 of the instant application. The protein sequence of UniProt has the various motifs including TWYG, GGACGF, HFDLSG and HFD as present in instant application. The expansin of UniProt from rice inherently possesses all the characteristics and functions of beta-expansin of the instant

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application. While claims 12, 14, 21 and 23 recite products in product-by-process form, patentability of a product-by-process claim is determined by the characteristics of the product only. As there is no evidence that the protein product as recited in claims 12, 14, 21 and 23 would be any different from the protein recited by the UniProt Accession No. 024230. Claims 12, 14, 21 and 23 are rejected. Therefore, UniProt anticipates claims 1-28, and 35-40 of the instant application.

Claims 1-28, and 35-40 are rejected under 35 U.S.C. 102(b) as being anticipated by Cosgrove et al. (Group I allergens of grass pollen as cell wall-loosening agents, Proc Natl Acad Sci U S A. 1997 Jun 10; 94(12): 6559-64, see IDS). Cosgrove et al. teach a sequence of a beta-expansin protein isolated from rice, which is 100% identical to SEQ ID NO: 10 of the instant application. The protein sequence of Cosgrove et al. has the various motifs including TWYG, GGACGF, HFDLSG and HFD as present in instant application. Cosgrove et al. also teach Group I allergens are the major allergens of grass pollen, their sequence and their function, which is structurally related to expansins, that are able to induce extension (creep) of plant cell walls and the expansins activity, as measured in wall extension and wall stress-relaxation assays and by loosening the cell walls of the grass stigma and style. The expansins of Cosgrove et al. from rice inherently possesses all the characteristics and functions of beta-expansin of the instant application. While claims 12, 14, 21 and 23 recite products in product-by-process form, patentability of a product by process claim is determined by the characteristics of the product only. As there is no evidence that the protein product as recited in claims 12, 14, 21 and 23 would be any different from the protein recited by the Cosgrove et al. Thus, claims 12, 14, 21 and 23 are rejected. Therefore, Cosgrove et al. anticipates claims 1-28, and 35-40 of the

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instant application.

Claims 3-4, 15-16, 18, 20-22, 25 and 35-39 are rejected under 35 U.S.C. 102(b) as being anticipated by Shcherban et al. (PNAS 1995 Sep 26; 92(20): 9245-9, see IDS). Shcherban et al. teach molecular cloning and sequence analysis of expansins--a highly conserved, multigene family of proteins that mediate cell wall extension in plants, which has the ability to mediate cell wall extension in plants. Shcherban et al. also teach isolation of cDNA clones from cucumber encoding expansins on the basis of peptide sequences of proteins purified from cucumber hypocotyls and teach the expansin cDNAs encode related proteins with signal peptides predicted to direct protein secretion to the cell wall. Shcherban et al. further teach isolation of Arabidopsis and rice (*Oryza sativa*) expansin cDNAs from collections of anonymous cDNAs and indicate at least four distinct expansin cDNAs in rice and at least six in Arabidopsis. Shcherban et al. isolate the expansin from rice. Thus a beta expansin Shcherban et al. also teach expansins, which are highly conserved in size and sequence (60-87% amino acid sequence identity and 75-95% similarity between any pairwise comparison with other beta-expansin family proteins), and teach that phylogenetic trees indicate the multigene family formed before the evolutionary divergence of monocotyledons and dicotyledons and a series of highly conserved tryptophans may function in expansin binding to cellulose or other glycans. Shcherban et al. further teach the motifs of Gly-Gly-Ala-Cys-Gly and His-Phe-Asp-Leu in said expansin. The expansin of Shcherban et al. from rice inherently possesses all the characteristics and functions of beta-expansin of the instant application. Therefore, Shcherban et al. anticipates claims 3-4, 15-16, 18, 20-22, 25 and 35-39 of the instant application.

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Conclusion

Status of the claims:

Claims 1-28, and 35-40 are pending.

Claims 1-28, and 35-40 are rejected.

No claim is in condition for allowance.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Iqbal Chowdhury whose telephone number is 571-272-8137. The examiner can normally be reached on 9:00-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ponnathapu Achutamurthy can be reached on 703-272-0928. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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